NAEB JOURNAL

Combined with AERT JOURNAL

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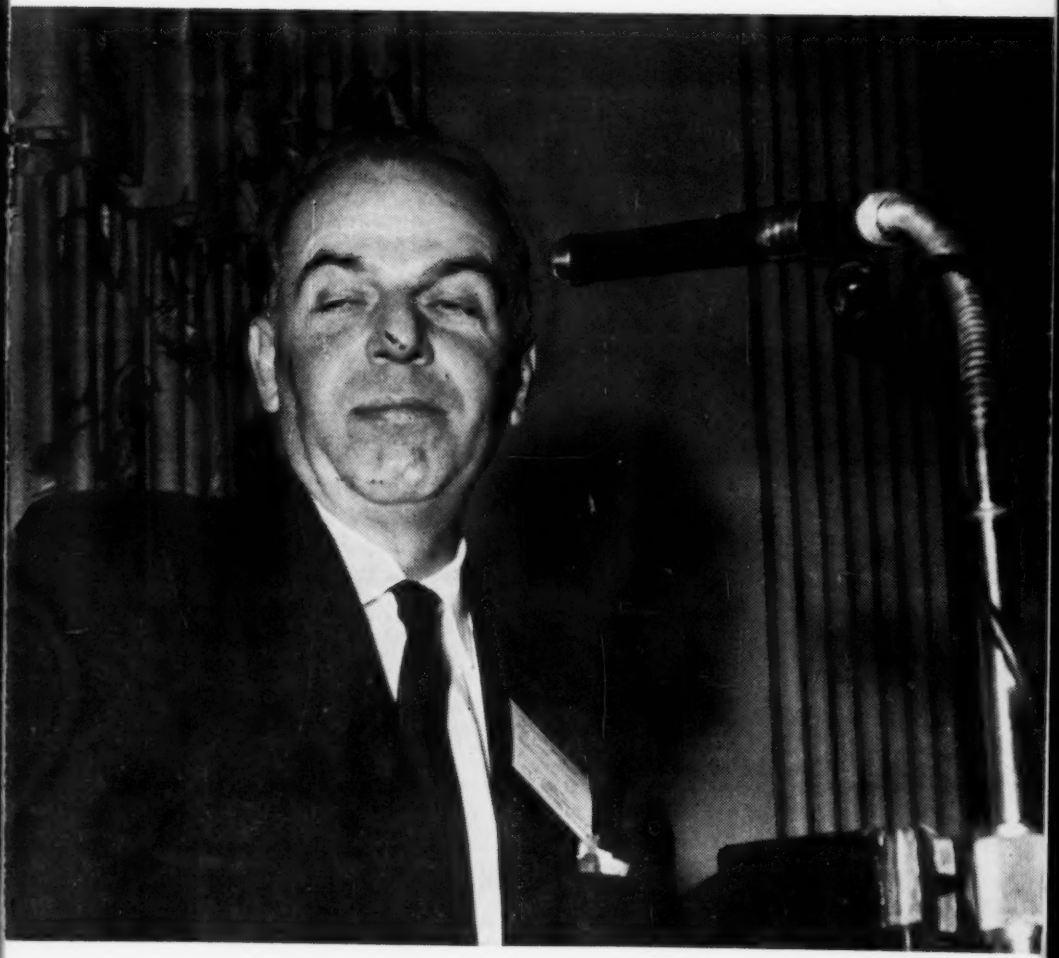

NAEB Convention Issue

Dr. I. Keith Tyler (center), director of the Institute for Education by Radio and Television, Ohio State University, was awarded the NAEB 1957 Citation of Merit. The citation was presented by Raymond Hurlbert (right), president of the Alabama ETV Commission. Richard A. Mack is at the left.

ON THE COVER: FCC Commissioner Richard Alfred Mack addresses the convention.

EDUCATIONAL PRESS ASSOCIATION OF AMERICA

Convention photos in this issue by Vernon Bronson

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What Does It Mean?

Educational gains must be our goal; the viewers' learning, our yardstick

● IT IS EASY to understand why the average individual is confused as he looks at educational television. It seems to be such a variety of things. From one stance he learns that approximately 30 noncommercial educational stations now are broadcasting television programs. Some of these programs are designed to be used directly in the classroom. Others are pointed essentially at the home viewer, but still consist of direct teaching of formal courses at various levels. Still others are designed for more general viewing, but these too are ordinarily systematic in their approach and continuing in their impact. He views programs which come to him live from the local station, others which are a part of a national film network, and still others which come from the same network on a live basis in cooperation with one of the major commercial networks.

From another stance he hears a great deal about the closed-circuit uses of educational television, and he is not at all certain he understands what this means or how it differs from the broadcast approach. He learns that many programs are fed from point to point in this fashion, sometimes using cables, at other times using a special microwave hookup, and at other times taking advantage of the usual channels through which open

By HARRY K. NEWBURN

President, Educational Television and Radio Center. From an address to the 33rd Annual NAEB Convention.

broadcasts are transmitted. This latter use grows out of the practice followed by many of the educational broadcast stations of using their facilities for what amounts practically to closed-audience purposes. Our citizen hears of the Hagerstown, Maryland, project in which an entire school system is experimenting with closed-circuit television at all levels. He learns further of cases in which medical or dental practitioners view on a national basis closed-circuit programs which provide clinical or post-graduate study of a professional nature. He hears of many other exciting adaptations of closed-circuit operations. No wonder he is confused.

There is, however, one very simple method of alleviating or possibly removing completely the tendency toward confusion or misunderstanding of educational television in its many and varied forms. This is to look at the development not as television but as education. If one turns the coin in this fashion, it becomes clear that what we are talking about is the use of a *facility* which we call television *for educational purposes.* And since education is a very broad and varied activity, naturally the uses which are being made of the facility are broad in nature. When viewed in this setting, it doesn't make any difference whether we speak of closed- or open-circuit television because either instrumentality can be used as a means of presenting an educational experience.

● IN REALITY there is little difference in what is being done over closed-circuit operations and what is being done over open-broadcast facilities so far as education is concerned. We use the open broadcast to present formal courses either with or without credit, either at home or at school, to present general informational materials, to present general education at all age levels; and we use closed-circuit facilities for the same purposes to the extent this is possible. In effect, what we see here is the development of a new facility, a new tool, a new technique, for mass communications. And what we are talking about is the opportunity and obligation to take advantage of this facility, this instrument for educational purposes. Naturally, we select that version of the facility which is most appropriate or most available to us in either instance.

It is clear the we have something which potentially is most important educationally both in terms of the flexibility with which the physical facility we call television can be used and in terms of the number of people who can be reached. Obviously, the potential of closed-circuit television, so far as the school audience is concerned, is the total school enrollment. It is entirely feasible to think of a situation in which every child or adult enrolled in formal education could be reached through closed-circuit installations. This would be an expensive operation, but there is nothing to prevent it so far as the tech-

nology involved is concerned.

We are also beginning to realize that even though the number of educational television stations is relatively small, their audience is a sizeable one indeed. Recent studies indicate that on a conservative basis at least 12 million people in this country are viewers of the educational television stations. This is not to say that these 12 million people view all of the programs broadcast over these stations, or even a major portion of them. It does mean, however, that over any given period of time the number of persons who have viewed programs over these stations would total at least 12 million. This is a sizable audience since it represents approximately four times the number of people enrolled in all the colleges and universities in the country. The number which can be reached by these stations under optimum conditions is much larger, being estimated at somewhere in the neighborhood of 40 to 50 million people. This number will increase, of course, in direct proportion to the number of stations in operation.

The problem involved in the movement, to which we refer rather generally as educational television, then, is that of determining how best to use this new electronic medium for the purposes of education, or stated a little differently, how to take full advantage of this facility in the service of education.

● IT MIGHT BE well at this point to emphasize two fundamental elements. The first of these has to do with the problem of taking proper advantage of television for educational purposes. In order to use the television medium properly and most advantageously, it is necessary to take advantage of all the special attributes of this facility for educational purposes. It is not sufficient simply to take the teacher out of the classroom, put him in front of a camera, and let him do exactly what he has been doing in the classroom. This is to limit the facility unduly and to fail in any proper effort to take advantage of it. We must make *artful* use of television if we are to take full advantage of its opportunities to help us with the total educational problem. There is nothing new about this suggestion since in any respect of education by any method, it is necessary to do the same thing. We know that a lecture presentation can be a real educational experience or it can be a dud. The lecturer must learn to adapt himself to the lecture method. The same is true in adapting the discussion method, the question and answer technique, or the problem-solving method to effective learning.

When we attempt to utilize the medium of television for teaching, we must make appropriate adaptations to the strengths of the medium if we are to secure the best results. If we are to lecture, we must recognize that we are lecturing by television, and we must take advantage of all the special characteristics of the television medium to make the lecture a most effective educational experience. The same

is true of other approaches to teaching in which this medium is used. Just as it is necessary to adapt a play or an opera which has been successful on the stage, if it is to become successful over television, so it is with any teaching activity which is conducted in this fashion. Our problem here, then, is to learn how to adapt to the medium, how best to take advantage of the fine qualities which exist in it, and how to determine which activities of the total teaching complex best lend themselves to use through this medium.

More important, however, is the necessity *to be educational* in our efforts. There is no justification for the use of the medium under the guise of education unless it really is educational in its goals. We must, therefore, have education purposes in mind, and, we must measure results in terms of learning on the part of the viewers. While we can define education along a pretty broad spectrum from what might be considered its relatively formal to its relatively informal aspects, we must, nevertheless, truly engage in education if we are to justify the uses of the medium as educational in nature.

One of the great differences between commercial and educational uses of television rests right at this point. In commercial television the producers ordinarily are interested in presenting personalities and programs which the people of the country will like and by which they will be entertained. The assumption is that if enough people do like the programs and if they are entertained by them, they are more likely to buy the sponsor's product. If they do not buy the sponsor's product, the program leaves the air fairly promptly. I'm not attempting to quarrel with this approach here, I am simply indicating that this is the situation which exists by and large with commercial television.

On the other hand, educational television must justify its existence in terms of the educational residue which remains as a result of the program service. If there are no educational gains — no learning on the part of the viewer — there is no justification for educational television for the simple reason that no education results. We should be as prompt as are our colleagues to withdraw such programs from the air.

● THERE IS NO question but that educational programs must be vital and interesting. But if they are only this, we have failed. We can justify our existence only if we a r e educational, which simply means that learning must take place when the programs are viewed or at least as a result of the viewing experience. *What we seek is educational materials which are vital and interesting.* One of the best ways to achieve this end is to keep in mind what educators always have attempted to do. And that is to present authoritative and important ideas, problems, and issues in the most interesting and meaningful fashion.

Beyond this we must recognize

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TASO and Allocations

The what, why, how, and when of the TV Allocations Study Organization

By **GEORGE R. TOWN**

Executive Director, Television Allocations Study Organization. From an address to the 33rd NAEB Convention.

● WHAT: The Television Allocations Study Organization, or TASO, is an organization established and financed by the television industry in response to requests made by the Federal Communications Commission. In its Report No. 2875 of June 26, 1956, and its Public Notice 35638 of August 31, 1956, the commission called upon the television industry to undertake a comprehensive study of "the technical principles which should be applied in television channel allocation" in order that such information might be available to the commission for its guidance. Information regarding technical matters pertaining to UHF television was especially sought by the FCC but it should be emphasized that TASO's responsibilities encompass both UHF and VHF. It should also be noted that TASO's activities are restricted to engineering matters and do not extend to a consideration of the other complex factors affecting television channel allocations; also, that TASO's functions in its relationship with the FCC are of an advisory nature only.

● WHY: Problems relating to the allocation of frequencies to the various classes of radio services have faced the industry since the early days of the wireless art. Such problems were, in fact, responsible for the creation of the Federal Radio Commission in 1927. As the years have passed and the electronics industry has expanded, the need for space in the frequency spectrum has increased enormously. Considering the needs of television broadcasting alone, the demand for more channels and the reluctance on the part of prospective broadcasters to accept available UHF

channels have produced for the FCC a situation most difficult to resolve. It was only natural that in seeking to resolve the situation, the commission should wish to have before it complete and reliable engineering information and that it should turn to the television industry itself as the best source of such information.

● HOW Organization-wise: To carry out the request of the commission, five organizations in the television industry cooperated to establish TASO. These five organizations are the Association of Maximum Service Telecasters, the Committee for Competitive Television, the Joint Council on Educational Television, the National Association of Radio and Television Broadcasters, and the Radio-Electronics-Television Manufacturers Association (renamed the Electronics Industries Association). Thus, the National Association of Educational Broadcasters, through its support of JCET, is indirectly one of the groups sponsoring TASO.

The policy making group in TASO is its board of directors, which consists of two representatives of each of the five sponsoring organizations. One of the members of the board is Ralph Steetle, executive director of JCET. The technical studies are carried on by six panels of engineers and by appropriate committees and subcommittees of these panels. The work of the various panels is unified through actions of the Panel Coordinating Committee which consists of the JCET executive director and of the chairmen and vice-chairmen of the panels. The executive director is responsible for the administration of the activities of TASO. Members of the FCC staff serve as observers on all panels and also preside at meetings of the board of directors and of the panels and committees in order to comply with the suggestions of the Department of Justice with respect to the operation of industry groups advisory to governmental agencies.

● HOW Engineering-wise: One method of describing the activities of TASO would be to discuss in detail the tasks being carried on by the six panels. The general nature of their assignments is indicated by the names of the panels: (1) Transmitting Equipment, (2) Receiving Equipment, (3) Field Tests, (4) Propagation Data, (5) Analysis and Theory, and (6) Levels of Television Picture Quality. Another approach, and one leading to a better understanding of the nature of the work of TASO, would be to consider the various elements of a television system and the manner in which they contribute to the basic requirements of an allocations study. The nature of the tasks confronting the engineering panels should then be evident without the necessity of considering technical details. It is this latter approach which will be followed here.

First and foremost, it must always be remembered that the ultimate object of a television system

(at least from the engineering point of view) is to produce a picture which satisfies the observer. A major task of TASO is, then, to draw up the technical specifications of a satisfactory television picture; or perhaps of several levels of picture quality. This in itself is a major job. Fortunately, TASO is not faced with the necessity of undertaking this task in its entirety but rather can confine its attention to those aspects of picture quality which affect allocations. Thus, assuming the retention of six megacycles as the width of a standard television channel, such matters as the number of scanning lines and the picture repetition rate do not require attention.

What, then, are the significant aspects of television picture quality which are relevant to TASO's work? In the assignment of channels for television broadcasting, two requirements are paramount: first, that sufficient signal strength be attained to provide service throughout the area surrounding the transmitter; and second, that within this area there be freedom from interference caused by transmitters in neighboring areas. The significant question, therefore, is: how much interference can be tolerated without undue degradation in picture quality? Studies of this problem have been made in the past, but the results are incomplete and, in some respects. inconsistent. It should be noted that it is necessary to consider many types of interference: co-channel and adjacent channel television signals, noise both external and internal to the receiver, multipath interference or "ghosts," and various combinations of these interfering signals. It is the latter two types of interference—multipath and combined inference—that have received least study in the past.

The method used to measure permissable degrees of picture degradation may be of interest. This type of measurement is carried on in the laboratory where test pictures are produced, and controlled amounts of the various types of interference are introduced. Groups of observers, chosen as representative samples of typical television viewers, judge the quality of the pictures as the degree of interference of a given nature is changed. The reactions of the observers are subjected to statistical analysis and the amount of interference which can be permitted in a "satisfactory" picture is determined. This particular activity of TASO is being carried on by Panel 6, which includes in its membership specialists in optics and in applied psychology as well as television engineers.

A "satisfactory" picture represents the output of a television receiver. The next step in the analysis of a television system is to determine significant characteristics of typical receivers — internal noise, sensitivity, selectivity, etc. This information can then be combined with the receiver "output" specification of a "satisfactory" picture, to find the strengths

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editorial

What About Pay Television?

● MUCH PRO AND CON discussion has appeared in recent months concerning pay television. One should not be surprised to discover that those who propose to provide this new type of service would attempt to persuade the people that such a system would offer additional choices to viewers, particularly of programs not presently available, and thereby increase the benefits of set ownership. Futhermore, it should not come as a shock to learn that the present operators of TV stations and the spokesmen for the industry have attempted to prevent even a trial of the pay-TV proposal, and that they have gone to great lengths to convince the public of the disastrous results to the listener should pay TV be permitted.

In view of all this, what position should educators take on this controversial issue? We, the educators, are often accused of being conservative, of making changes slowly, often with great reluctance. In my opinion, however, to point this out is to commend rather than condemn. Does it not merely reveal that educators try first to discover the facts, to experiment where possible, before making changes that might retard rather than accelerate?

To those of us who can look back over the years to the establishment, in 1927, of the original regulatory body for radio, the Federal Radio Commission, it does not seem strange that many proposals made by the federal regulatory body for improvement of the industry have been opposed just as strenuously by the industry itself as has more recently been the case with the pay-TV proposal.

The United States is often referred to as a "free-enterprise" system and the blessings of such a system are frequently extolled by the representatives of commercial broadcasting. This has been especially true when any proposal is made to establish a license fee, to subject to critical review the program offerings of a broadcast station, or to deny renewal of a broadcast license because of a long record of programming not in the public interest.

Is not free competition the basis of the so-called "free-enterprise" system? Is it the responsibility of the federal government to protect an existing industry when a new industry appears on the horizon and offers promise of providing the public with a new service which might prove advantageous? Did the government prevent the sale of automobiles in order to protect the interests of buggy manufacturers? What about the interests of the coal industry when oil and gas began to be used for heating? Or,

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Broadcasters and Educators

A broadcaster urges educators to use commercial TV's potential

● I have been a broadcaster for almost thirty years. For nigh on to twenty years I ran a radio station. Then I started one of the country's earliest television stations and for half a dozen years I ran both radio and television. For the past six years I have been with the National Broadcasting Company.

In my days as a station operator, I was involved in numerous educational projects in both radio and television, and always I had educators galore in what few hairs I own.

Over the years I have observed a basic antagonism which I suppose is generic between educators and broadcasters. Most educators think of broadcasters as hucksters, opportunists, and roughnecks, chiefly interested in making a million dollars as quickly as possible. Educators think of broadcasters as giving only lip service to the public interest provision in the law and using it as a cover for machinations which barely fall short of being nefarious. Educators are convinced that broadcasters are not interested in elevating the human race and instead, for purposes of their own self aggrandizement, are not at all averse to aiding violently in degrading Homo sapiens.

Conversely, broadcasters regard most educators as stuffed shirts who seldom do their own work well but try to tell everybody else — especially broadcasters — how their jobs should be done.

By **HARRY BANNISTER**

Vice-President, National Broadcasting Company. From an address to the 33rd Annual NAEB Convention.

I know that if I go out of an evening and meet six or seven people in somebody's home and one of them is a teacher, I'm going to be subjected to a catechism, monotonously unvaried and unimaginative: "When are we going

to have good television programs?" "When are you going to have programs for intelligent people?" Always the implication is that broadcasters pander only to the lower levels of taste and intelligence, and do little or nothing for thinking people. Always in the background I can hear the voice of the Pharisee saying, "Thank God, I'm not as the rest of men!"

After the catechism comes the next phase which starts out with one of two utterances. It is either that "I don't own a television set," always stated bumptiously, with the connotation that nobody who is anybody would ever acquire such a horrible object, or else it is that the programs are so awful that "we never turn on our television set any more." Of course, to me as a broadcaster, the second statement would be much more disturbing than the first except that I know it will be always followed by "What went wrong with Perry Como last Saturday?" or, "That was a lousy soloist Steve Allen had on his show Sunday night," followed in turn by more comments or questions on numerous programs throughout the week. All of which is hardly consonant with the original postulate — "We don't turn on our television set any more."

I am not making this up. I speak of experiences repeated again and again. Based on my almost third of a century on broadcasting, I am certain that if I had to choose one class among our people as representing the most unreasoning critics of broadcasting, I would unhesitatingly choose the egghead category which, of course, includes most teachers.

● I WOULD LIKE to cite you a concrete example. In 1948 I sat down with Doctor Ruthven, then president of the University of Michigan and some twenty members of his faculty comprising a number of committees—the committee on television, public relations, the policy committee, etc. I submitted a proposal to them for a television series to be titled "The University of Michigan Television Hour." I offered them one hour of prime time on my station every Sunday from 1 to 2 p.m. Eastern Standard Time. I told them that this offer would be irrevocable, the time would always be theirs and would never be recaptured by the station for any other purpose. I told them that I would pay the faculty people who worked on this program and I attached only two conditions. One, that a tuition fee be charged. Two, that some form of college credit be given for the course.

Naturally they were very much interested — in fact, enthusiastic over the idea. After some discussion, the executive vice president of the university asked me, "What do you think we ought to do with this hour?" The question should have surprised me but it didn't. I suggested that the hour be broken up into three 20-minute segments, one segment devoted to the liberal arts, one to practical living, and one as a showcase for the university. I

was somewhat surprised, however, when they accepted my entire proposal with practically no discussion. That's the way it went on the air and, as far as I know, that is the way it still is.

While this turned out to be a successful formula, nine years ago as a new communications medium was dawning on the world, educators should have been much more advanced than they were in ideas for utilizing television. They should have come to me, but instead, I had to go to them.

In early 1952, there were some 3,500 enrollments in this course, each one paying a tuition fee which qualified the student to receive corollary reading material and to take the final exam and earn a certificate. At that time the figure of 3,500 was higher than the student body at 60 per cent of all American colleges.

● I HAVE ALWAYS believed that within my lifetime it would become possible to earn a college degree or a certificate of advanced study without ever attending a classroom.

Please understand that it is no part of my belief that television can ever take the place of colleges and universities any more than the motion picture films took the place of the legitimate theatre. However the world we live in is beset with what has been described as a problem of exploding population. We aren't even sure yet that we will be able to feed everybody let alone educate them. I saw a UNESCO report just the other day stating that there are 700 million illiterates in the world, and that they are reproducing faster than educational facilities can be supplied for them. I have read repeatedly that in our own enlightened country, college enrollments will just about double in another decade. How are we going to cope with this enormous college hunger except perhaps by using as fully as we can the instrumentality which we call television as a supplement and an adjunct to existing institutions. It seems to me that it should be wonderfully exciting to you people to pioneer in such a great adventure.

Late last year NBC announced a plan which, for the first time, actually placed a major network into educational television, thus marking the furthest penetration yet made into the halls of ivy by commercial TV.

While I am proud to be associated with such efforts and I am impatient with all those who try to limit such activities, I am completely dedicated to the proposition that direct instruction either in class or out of class is only a by-product of television. We do and can do much in many other ways. Almost every television program has in it elements of education and instruction. I became conscious of this in the very early days of television when everything pertaining to TV was a matter of prime conversation whenever two or more people got together.

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An International View

A UNESCO director describes challenges to educational broadcasting

By TOR GJESDAL

Director, Department of Mass Communication, UNESCO. From an address to the 33rd Annual NAEB Convention.

● THE National Association of Educational Broadcasters of the United States of America has won international fame, because it is a unique institution. Your aims and achievements have won you respect and provided inspiration to others. As regards UNESCO, we consider you as partners, and even more than that, as an executive arm of our program. UNESCO is not a Secretariat in Paris solving world problems with paper and pencil. UNESCO represents a conglomerate of activities going on simultaneously all over the world. It is the governments and the peoples of our member states which find and apply the solutions to the problems. UNESCO is only the instrument for their concerted actions in the field of education, science and culture. But what is done, and done well in one country, we also transmit and help transform to others.

When I express our gratitude to you it is because we know what your members and your association as a whole have done for educational broadcasting in the United States in the best UNESCO spirit, and because we have also been able to transmit some reports of your aims and achievements to others and to help them in adapting them to their own needs. The first of the challenges I should like to list would therefore not be so new. It would be just to continue your work and expand it, to continue letting UNESCO know about it, particularly to let us know more

Tor Gjesdal, Director, Department of Mass Communication, UNESCO, addresses the NAEB Convention at a banquet.

about your efforts in new fields so that others less fortunate than you in this well developed and well-to-do country can benefit from what you do here.

Our time is full of challenges. Frequently a challenge is presented as a response to a crisis. I disagree with those who see crises everywhere, but I like challenges. And if a critical situation is that challenging that it sparks far-reaching initiatives, the crisis may be useful.

There is a lot of talk about crisis within and around that sector of our society which the mass media of communication have occupied for themselves. Most of you will probably confirm that there is a

crisis within the medium of broadcasting caused among other things by the enormous progress of television in some countries. I do not deny that such a crisis exists. I would only like to offer some observations and contentions in between the challenges which I have been invited to present.

• MY FIRST observation is that the general crisis of mass media differs widely from country to country, and particularly between the technically highly advanced areas of the world and the technically under-developed parts. In the technically advanced countries the mass media crisis can best be described paradoxically as a "crisis of abundance." So much material is available through the mass media that one is reminded of industrial over-production and over-filled markets. Yes, information and entertainment, education and knowledge of all types and kinds, reach us now-a-days literally from all corners of the world by day and by night, by ear or by sight, over our doorsteps. And questions are asked: Will television win as it conquers the homes of hundreds of millions? Will sound radio survive or will it disappear? Will the newspapers have their comeback after the untimely death of so many old and good hometown papers? Will new media be found and supersede or supplant the others? Yes, where are we all going to end up?

I don't know, of course. But my first contention is that the so-called "crisis of abundance" can be solved as can most other crises. I believe that the reaction of those who are exposed to abundance will be that eventually a much more healthy use of what is provided will emerge. I believe that we shall see some sort of an equilibrium come into existence, and a balance of power be formed also between the various mass media, provided that the corresponding challenge is met. And that challenge, I submit is the challenge of high quality, high quality in the widest sense and in all fields!

While observing that today we find ourselves in a period of transition, I furthermore contend that this challenge of quality is equally strong to all media of information. They will all have to find their level and adjust their methods with this challenge in mind, if they shall have any hope of surviving the present struggle.

My third observation concerns a related situation which is also sometimes described as a crisis. It is the high degree of entertainment supplied through the mass media of information and other channels. It is believed by many that the use of these media mainly, if not solely, for entertainment is now becoming so strong as to threaten any other uses such as for education.

I know that there are some quite diverging opinions on this issue, but my specific contention regarding the situation in your field is that entertainment and education by radio are not at all incompatible.

Certainly the desire to be entertained is very strong nowadays and all over the world. If there are any differences they are mainly in degree and in the amount of entertainment wanted.

From my international observation post, I have noticed that the desire for entertainment via the mass media of communication appears perhaps to be strongest in the technically advanced countries. On the other hand, in technically under-developed areas the medium of radio broadcasting for instance seems to be considered much more an instrument of education at all levels.

I have no contention explaining this different approach, which may have other causes than merely those of abundance and poverty. It is a challenge to our social science friends to study this. May I only suggest that there are special challenges in both cases: that entertainment may well include more education if intelligently prepared, while education may also well be more entertaining.

I am reminded in this connection of some statements made at an international conference UNESCO arranged last year for producers of cultural radio programs.

● THE NAEB WAS, incidentally, well represented by Dr. Stanley Donner who gave a concise picture of many interesting experimental and operational activities in the field of cultural programs in the United States. I am also grateful to the NAEB for having undertaken to distribute in this country a number of copies of the report of that meeting.

But the statements I am thinking of referred to a common problem faced by program directors from the Soviet Union to Spain, from Denmark to the Dominican Republic. That was the "highbrow" approach among the men of culture, education, and science when they spoke on the radio. The incomprehensible type of language employed, in indulgence in little-known philosophical concepts, the use of inexplicable technical terms and formulas, placed so many programs, they said, out of reach for most people. Now one thing is to cater for special audiences; that is a most commendable effort. But I contend, it is against the very concept of the media of mass communication to apply them in such a way as to present the knowledge, be it culture or science, as something nearly unattainable for the masses. I would submit that the contrary is the case, and that the widest possible dissemination of popular knowledge of culture and science is one of the most important challenges facing the mass media, and particularly broadcasting. I believe you have made more progress in this field in the United States of America than in most other countries, and I know how much of the credit for this goes to the members of the NAEB. Again, your experiences here are of international importance.

I now wish to be a bit more

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NAEB Officers for 1958

NAEB officers of 1958 are (l. to r.) Vice-President Jack McBride, director of educational television at the University of Nebraska; Secretary Haskell Boyter, director of radio and television education of the Atlanta Board of Education, Georgia; Treasurer Robert Coleman, director of radio at Michigan State University; and President Dr. Burton Paulu, director of radio and television broadcasting at the University of Minnesota. The new terms become effective January 1, 1958.

Radio-TV Syllabus Begins In January

Teachers of Radio Workshops and Radio Courses in Junior and Senior High Schools will be pleased to hear of an added feature in the spring issues of the *Journal*. A new Course of Study in Radio and Television for high schools has been a project of a special committee of the Michigan Speech Association for the past two years. This syllabus has now been made available to NAEB members through the courtesy of that organization. The Course of Study will appear in five installments, in the issues from January to June. In addition, it is planned to reprint the syllabus in pamphlet form.

Questions Posed by TV

We cannot ignore these questions on classroom and teacher-training ETV

By **WANDA B. MITCHELL**

Evanston Township High School, Illinois. From an address to the 33rd Annual NAEB Convention.

● THE EXPERIENCED classroom teacher who has survived numerous evolutionary and revolutionary developments in instructional methods is now faced with another challenging question: What does educational television mean to me? To my students? To my job? To education?

If he is at all aware of current literature on the subject, he has heard the negative claims against television. It is taking the place of the classroom teacher, who faces technological unemployment. It is an impersonal robot, depriving boys and girls of the necessary human element in teaching. It merely "fills the bucket" with information; it cannot "light the flame" of inspiration. It can impart content, but it cannot develop attitudes and appreciation. It can do nothing which a good teaching film cannot do better at less expense.

Even a cursory examination of the research reports listed in Dr. Hideya Kumata's *Inventory of Television Research* [1] reveals equally impressive positive claims for television: It can give every pupil a front row seat. It can take teacher and pupils to otherwise inaccessible sources. It can enrich the learning situation. It can extend learning opportunities to groups outside the school walls. It can assist in the training of teachers.

These apparently conflicting claims pose serious questions for the educator. The impact of commercial television on daily life

1. Kumata, Hideya. *An Inventory of Instructional TV Research,* a project of the Institute of Communications Research at the University of Illinois, published by ETV and Radio Center, Ann Arbor, Michigan, 1956.

makes it imperative that those responsible for the educational program study this medium. Can television aid in handling the rapidly increasing enrollments? Can television production be handled by school personnel? What is the cost of installing and operating equipment? What are the building needs, such as size of rooms, for effective use of television? Does television teaching require special methods? If so, where can these different methods be learned? Can television assist in a more efficient use of teacher time and special talent? How do students, parents, and teachers react to instructional television? Are achievement results satisfactory? Do we have adequate tools for measuring the learning for which television is responsible?

In an attempt to answer some of these questions, Evanston (Illinois) Township High School conducted an experiment in the use of closed-circuit television to teach typing and English-speech. Details of the setup of this experiment were reported in *AERT Journal.*[2] After a year of evaluating comparison groups, achievements and attitudes by observer teams, questionnaires, recordings, and kinescopes, two well qualified members of our staff collected the data and prepared tentative conclusions.

From this study,[3] we concluded that television could be used to handle larger numbers of students in a skill subject such as typing. It appeared that television could give every student a front row seat in subjects in which demonstration is important, such as science, cooking, and sewing. The use of television could enable the teacher to have two periods for student conferences when three sections were taught simultaneously. Furthermore, the showing of movies, filmstrips, and slides via the television screen could have certain advantages: There was no need to darken the room and bring in a projector and screen. Students could take notes. The teacher could insert the visual aids into the lesson more naturally and more efectively as an integral part of the lesson.

● IT WAS FURTHER concluded that television had much to offer to the more efficient use of teacher time and talent. As a result of observations during the experiment, a freshman survey course in speech arts was reorganized to use more advantageously the specific talents and interests of four teachers. Previously, each of the four teachers had taught all the units in acting, stagecraft, discussion, oral interpretation, and public speaking. Now, for example, one teacher, who is especially skilled in discussion, presents that unit on television for all four groups, releasing the other three teachers to supervise, to provide for individual differences, and to prepare for the units which they will teach later.

A senior English class was re-

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2. "Closed Circuit Television for High School?" *AERT JOURNAL,* November 1956.

3. A copy of the complete report may be had by writing to the author, in care of Evanston Township High School, Evanston, Illinois.

The Demand for TV Space

By RICHARD A. MACK

Commissioner, FCC. Résumé of an address to the 33rd Annual NAEB Convention.

At the present time there are 26 noncommercial educational television stations on the air—21 are VHF and 5 are UHF. In addition, educational institutions are operating 5 commercial television stations—4 V's and one U—and I must call to your attention that this is after a period of five years.

I feel that the educational institutions and other groups interested in radio and television educational operations have made excellent progress, but there are presently 49 VHF and 149 UHF channels for which the Commission has no applications.

The Commission is well aware of the financing problems facing radio and television educational stations. However, as you should know, there is intense demand for use of the spectrum space—for example, from

1. Commercial broadcasters,
2. Industry and commerce,
3. Public safety services such as law enforcement and fire protection, and from
4. Military Services.

The Commission has maintained a firm position in your behalf. But it is becoming more difficult every day to justify spectrum allocations that are not being used.

Colleges Without Walls

By R. H. WITTCOFF

Chairman, St. Louis ETV Commission. Résumé of an address to the 33rd Annual NAEB Convention.

The national education television network—the Educational Television and Radio Center—has come a long way in three years. It will soon have thirty stations on the air. It has along way to go to attain fully the great goals which have inspired the effort. Progress towards each of these goals requires a national effort, for in each case it would seem to be a matter of getting the first-rate men to do the programs. The distinction between the competent and the creative, the difference between what is good and what is best can be of decisive importance if the aim is to make a real impact on the mind of America.

A review of the total program output of all the stations in the beginning years would reveal some inspired peaks in programming occasionally rising above an uneven plateau. The peaks are more important than the plateau because they offer a glimpse of the heights to which this young movement may rise when it gets more substantial support.

The greatest teachers should put whole courses on film. The world's wisest men should be invited to discuss the world's most important questions in unabbreviated broadcasts which preserve the spirit of the civilization of the dialogue in this age of the digest. Programs on the arts should bear the mark of their most inspired exponents. The quest for both excellence and coherence must always animate the movement.

The existence of this educational television network is a challenge to the nation's intellectual leadership. It calls for a continuing communion of our best minds to develop ways for using this powerful apparatus to assist the schools in meeting the needs of our growing population, to make possible the creation of colleges without walls, to elevate and extend the public discussion of important questions, to bring the highest values of our civilization within the reach of everyone.

What About Pay TV?

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to get closer to home, were the interests of the radio industry protected when television came?

One could argue on a factual basis that commercial television has failed miserably in many respects to live up to its potentialities. Gilbert Seldes, in the August 24, 1957, issue of *The Saturday Review,* points out the tragic situation in Los Angeles with respect to TV programming during the hours when children have access to radio and TV receivers. One could point out also the overcommercialization, the dropping of high quality programs and the substitution for them of less desirable fare, the control of programs by advertisers rather than by those who place the public interest first. Many more illustrations could be given. Enough has been said to reveal why pay TV promoters expect to find an eager and profitable audience.

● LET'S BE realistic about this present proposal! Numerous actions of the FCC have injured some segments of our society. The granting of licenses for the operation of TV stations injured radio severely and, in its attempt to maintain financial solvency, changed its programming to something most educators would join with me in feeling is much less desirable than previously. Should TV not have

been licensed for this reason? The reservation of TV frequencies for educational use and the subsequent licensing of stations on these frequencies subtracted listeners from the commercial stations. But, at the same time, it created new audiences from among the more discriminating listeners. Should educational TV stations not have been licensed? Now the FCC is faced with a new question: Should pay TV be approved?

If the American public does not want this service, pay TV will die from lack of support. If the existing stations had provided, at no cost to the viewer, the type of programs the audience desired, there might be no proposal today for pay TV. The American public has always been willing to pay a reasonable price for the things it wants. Unless pay TV gives the viewer the programs he desires and at a price he feels is fair, he will not pay but will turn on the free programs.

It seems to this writer that the best traditions of the "free-enterprise" system suggest that pay TV be permitted to compete in the marketplace with the present commercial TV system. This should provide a desirable stimulus to both. And the public, as it should in a democracy, will be the final judge.

—TRACY F. TYLER, *Editor.*

Questions Posed by TV

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organized to utilize a team of teachers with special skills for a class of 120. Television is one of the audio-visual devices enabling one teacher to present a common body of information and directions to the large group of students while training in necessary skills is provided in small, laboratory sessions.

Perhaps the most significant result of this experimentation was the raising of new problems, new possibilities, new questions. What about the non-classroom uses of television, other than "Big Brother" supervision? We are now studying the possible uses of remote control cameras in the grid during the performances of the school plays. How can television improve registration procedures? Can we administer standardized tests in a more "standardized" way when directions and procedure are telecast by one expert at a central point rather than by individual teachers? Would our school records be more readily available to all teachers and counselors if a camera were to be focused on the record as it remained in its file rather than in the clutter of papers on desks throughout the school?

How should we train students to learn via television? That there are special techniques peculiar to

this medium is indicated in the kinescope of Mortimer Adler's "How to Learn via Television." In which part of the learning process can television play the most effective role? Does the learner have a different responsibility when the learning environment is partially or totally televised?

What does all this mean in the way of teacher training? The University of Minnesota, Chicago Teachers College, Montclair (New Jersey) Teachers College, and Kansas State Teachers College are only a few of the institutions attempting to use television to make classroom observations more practical and meaningful. But where can a teacher learn how the television camera fits into the family of teaching tools? Where can a teacher learn when a zoomar lens rather than a microscope should be part of the lesson plan? How many of the chores of the teaching process can be handled via television and thus free the teacher for the rewarding process of motivating, inspiring, and guiding children through the adventurous steps of learning?

A further challenge to educators is the question regarding television's use in training teachers in special areas, such as counseling. Remotely controlled cameras enable an instructor to administer group therapy while teachers in another room study his techniques as they observe the procedure on television. Can television help in other ways?

Television poses other questions in the area of teacher training. How will the daily classroom methods of a teacher be affected by tuning in each day the masterful teaching of the instructor who can devote full time and unlimited resources to the preparation of one lesson? Does television provide a practical device for the in-service training of the beginning teacher?

What, if anything, does television have to offer to special ability groups? The valuable Army research in this area has not entirely explained how the schools can use television to teach the mentally handicapped or to motivate independent study for the student of superior ability. A group of educable mentally handicapped children can, by television, visit regular classrooms and participate vicariously in activities normally not available to them. More than 1,000 educators attending the Conference on the American High School held at the University of Chicago heard the suggestion that a separate school or curriculum be provided for those who have demonstrated their capacity for "sustained study and self-directed activity." Can these be taught by television? Dare educational broadcasters offer their services to an organization like the International Council for Exceptional Children? Is television only for the middle of the class?

What does it mean? Indeed educators can no longer avoid the answers to these questions. If, as Dr. Kenneth Bartlett once said, television can make us want better products — and certainly commercial television thrives on that

assumption — educators must learn how to use it to make us want better ideas. If television can be used to motivate people to buy, then educators must learn to use it to motivate people to think.

What does it mean? One nationally known educator, Alexander J. Stoddard, has offered tentative answers to some of these questions in *Schools for Tomorrow: An Educator's Blueprint.*[4]

● A FACULTY committee at Dartmouth reported its reaction to this challenge in these words:

"Despite a profound skepticism widely shared at the outset within the committee as to the usefulness of television to an institution such as Dartmouth; despite a fundamental reluctance to encourage an adventure by the college along a course which is not only untested in our own indigenous educational practices but is likewise largely untried, at least conclusively, in the entire sphere of American education; despite the difficulties of pinning down many of the facts, to say nothing of the issues; and despite the knowledge of the very considerable outlay of funds and manpower inevitably involved, the committee has gradually come to the conclusion that the potentials of television in education are so enormous that it is likely that no institution of higher education will in the future be regarded as fully capable of realizing its purposes without having in some fashion made this instrument its servant. The only real questions to be resolved, in the opinion of the committee, are how far and how fast Dartmouth should go in adapting television to its ends."[5]

If you who read this are concerned in any way with the education of children, teen-agers, or adults, you cannot afford to ignore these questions regarding educational television. You cannot argue with the sunrise; you can only say, "I do not wish to get up."

4. Stoddard, Alexander. *Schools for Tomorrow: An Educator's Blueprint,* published by the Fund for the Advancement of Education, New York, 1957.

5. "A Faculty Committee Looks at Television," *The Educational Record,* October, 1954, published by the American Council on Education, Washington, D. C.

An International View

Continued from page 17

specific about what has been called the "educational crisis" and the challenges facing the media of broadcasting in that connection. Again the problems differ widely at least in practical terms from one part of the world to the other. I cannot, of course, speak with authority about the specific challenge of your educational radio and

television from an American point of view as I am an international civil servant and you know much more about it in any case. Nevertheless, the problems are, I feel, basically the same; and once more the experience gained in one country can help others, by, on the one hand, introducing new methods for the solution of common problems and, on the other, simply by the sharing of skills acquired.

Again speaking in terms of crisis, what might be termed the "educational crisis" of today is marked by a rapid growth of the students' population, a growing teacher shortage, and in particular a shortage of highly qualified and skilled teachers required for the expanded science teaching needed if the youngsters of today are to meet their obligations, and be able to exercise their rights, as citizens of the technological society of tomorrow. The great quantity and increasingly intricate nature of the information which must be conveyed to the students is the main headache of the curriculum specialists all over the world, as was stated at UNESCO's curriculum committee which met in Paris only recently.

There is no doubt that the technique of radio broadcasting and, particularly, that of television can today make a really major contribution in the field of education. Here is, in fact, one of the main challenges of our time. We have been glad to note how the United States educational television is already paving the way in showing how this challenge can be tackled. I learned about the reports given at the recent Boston Conference only upon arrival in this country last week. I noticed how the activities were still mainly experimental or in the form of pilot projects. I, for one, have no doubt, however, that educational television will come of age in this respect in a not too distant future. Even if you are only at the beginning, you have demonstrated already quite clearly how the highly qualified science teacher and his costly laboratory and equipment can be multiplied simply by the number of television sets available to the classes wishing to follow the course — not for the purpose of supplanting, but for supplementing regular education. While this challenge is now becoming gradually recognized in large areas of the world, I wish to suggest it as a special task for you in the United States that you go all out to prove how well the challenge *can* be met, by undertaking more and more courageous experimentation, by systematic expansion of your established practices, and particularly, by offering exchange reports on the technical pedagogical p r o b l e m s solved by your efforts. You have the means to do this and if you ever wish to give a lead to the world in the enlightened use of mass media, this is the place to do it, and it is the time.

• THE CHALLENGE becomes

even greater, if you place it on the background of the "educational crisis" of the technically under-developed countries. We all know how much larger their problems are. They have to lift whole populations, comprising hundreds of millions, the majority of which is frequently illiterate, in some respects several hundreds of years ahead in one jump, during a span of a few decades only. Their shortage of qualified teachers is perhaps their most serious problem today, competing with that of shortage of investment capital. For financial and technical reasons, sound radio is bound to dominate the field in these parts of the world for years to come, even if television could give more effective help. The challenge of *today* in these countries is, therefore, to develop the use of education by sound radio so as to make both adults and children ready for the new opportunities of life to which those people are also entitled. It is a great challenge. Frequently the group of qualified teachers and broadcasters able to undertake the task is extremely small, while the population and areas are extensive and the poverty prevailing so wide as to allow only for a minimum of radio sets. But no difficulty is insurmountable and sooner or later television will also come to these countries, and one should be prepared in time for its full employment for educational purposes. That, I submit, is the real long-term challenge and a most formidable one.

I should like to report to you that the government of India has recently asked UNESCO to help them launch a new project. They wish to establish a limited central educational television service first, and later expand it to other areas — which cannot be reached for some time because there will be no transmitters available and not even electrical supply. But it is interesting that they plan an extensive production of kinescopes for their wide network of 16mm projectors. That type of experimental interim arrangement may be of great value to other countries.

Looking at the future, I would really hope that you in the United States will undertake to arrange a series of truly international seminars on the use of television for higher education in all countries. The initial experiment in Boston was certainly a most commendable initiative, and you will certainly have our full support for such systematic efforts as you may decide to launch. That is the type of challenge we shall be glad to discuss at any time with the responsible officers of your organization or of your government.

I talked about sharing your experience. May I also say that still another challenge to you would be if you could see your way to sharing with other countries some of the educational television programs you actually produce, to a larger extent than is now the case. There are now regular experimental school programs being broad-

cast in countries such as the United Kingdom, Canada, France, Japan, the Soviet Union, while more countries are seriously considering their introduction, such as the Scandinavian. I know that the NAEB distributes some foreign programs here, but the whole field is one requiring serious attention. The exchange of suitable programs is a challenge of a particular nature which UNESCO has tried to tackle in consultation with the industries.

After two expert meetings, we now believe that existing international and regional organizations of television systems and film producers are in the best position to carry out practical international and national exchange arrangements which they, we hope, may fit into their own normal schedule of operations, without any particular new international center being set up for the purpose.

● UNESCO, as you know, is the United Nations Organization for Education, Science and Culture and our ultimate aim is peace. Unesco's founding fathers believed in the mass media of information, and outlined a program of mass communication both of a substantive and of a public information nature. Others will be able to evaluate our achievements, which in any case have been modest.

I would like to mention one example of what we are now trying to do under our new, or revised, policy of concentrating on mass communication as such, on key issues in the mass media field. There is going to be in 1959 a World Radio Conference, called by the International Union of Telecommunications to review the allocation of high frequencies. But it is also expected to deal with other matters governing international cooperation in the field of radio. With an eye to this conference, we are undertaking a comprehensive study of the possibilities offered by radio as a vehicle for the free flow of ideas, and as a medium for the promotion of international peace and security. In this way, we hope to be able to define. to some extent, the position of radio broadcasting in contemporary international society, and to evaluate its practical and potential role, as UNESCO has previously done in the field of press.

Brief historical and technical surveys will be given, emphasizing such aspects of broadcasting as radio in education and cultural exchange, radio as a news medium, radio in lesser developed countries, etc. We shall deal with some of the challenges I have listed, and others. We shall also try and analyze the future of radio, or at least its potentialities to further international understanding if and when political tensions decrease. The study will mainly deal with sound radio, as television is yet too young, we feel, to be the subject of such a world-wide analysis; other publications are planned on the role television may play in specialized fields where it would be Unesco's duty to draw attention to the challenges which should be met. Ou

study, presently being undertaken by an American communication specialist, Professor Codding, in cooperation with our Division of Free Flow of Information, has the ambitious aim of helping sound radio at a time of crisis to redetermine its position and find new roles to play.

We are seeking the cooperation of enlightened professionals whose duty, we feel, is to tell us where they think the main problem rests and what we should propose. International professional organizations have, over the years, proved to be very good at helping us this way and have recently rendered considerable assistance in our two new important mass communications projects: that of promoting better facilities in education for journalism in all media and in stimulating more mass media research. But national groups frequently lag behind, to the great disadvantage of the national commissions which may then have to deal with our issues without the benefit of the best professional advice. I am selfish enough to list also this as a modest challenge to the men and women of the media today.

May I then present a last challenge? Broadcasting recognizes no frontiers. The Hertzian waves already carry the word around the world and it is a question of time only before the image also can be added. No media of communication can at any particular time bring people more closely together, and teach them to live together and work together, than can radio. Yes, one can have faith in radio.

To build a lasting peace which will give justice, progress and prosperity to all mankind, is the ultimate aim of our time. For radio to help realize that aim is the greatest challenge of all.

Broadcasters and Educators

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• TIME AND TIME again I have been told by parents something like this: "My youngest son, who grew up with television, is far ahead of his older brothers at every stage of his development just because the older kids didn't have the advantages of television. At age 3, 4, 5, 6, and so on, the younger boy is sharper and much more knowledgeable." I've heard this from parents over and over again just as I have read over and over again where some teacher, to cover up his or her own inadequacies, is blaming television for bad classroom performance.

The process of steady general instruction in all directions has been the history of broadcasting right

along. It was true of radio many years ago and it is true of TV today. Just to cite one statistic, the first symphony concert to be broadcast in this country was put on the air by NBC in 1927, and it was estimated at that time that it drew an audience of about one million people. The last Toscanini radio concert which marked the maestro's retirement was estimated to have reached 20 million people and with all of the adjustments for increases in population and radio circulation in the intervening years, you still get an astronomical increment in the interest to classical music. This was accomplished chiefly by broadcasting. Before radio there were less than 100 symphonic groups in our nation. Today they number almost 800.

Every television program, even at the lowest levels, has in it some elements which increase knowledge or perception or offer newer or broader standards of values in one respect or another. And, of course, when a program is especially designed to do some or all of these things, it can accomplish much.

On NBC we did Richard III not so long ago, estimated to have had more viewers than all the people who have seen all the plays which Shakespeare wrote from the time they were written right up to that telecast. And the same is true of the Cinderella we did with the Sadler's Wells Ballet. I am sure more people saw ballet on that night than the accumulated total of all previous ballet audiences.

At the risk of being banal, I have to declare myself to the effect that the free born American resents having culture thrust upon him but is quite apt to accept it in homeopathic doses. Recently on NBC we have given audiences the Kabuki Dancers, Carl Sandburg, William Faulkner, Frank Lloyd Wright, to mention only a few, all in admittedly homeopathic doses. Perhaps I am in favor of this method because a full evening of Kabuki would bore the bejeesus out of me, and I could think of no worse fate than to be shipwrecked on a desert island with Frank Lloyd Wright.

Now, if I may, I would like to come back to NBC's educational series which has created such a stir throughout the country. Undoubtedly this marks a milestone in both education and broadcasting. The NBC series is the first significant attempt on the part of telecasters to make fine educational programming, employing all the know-how and resources of a great network available for in-class instruction. We have done this despite the fact that the industry feels this is not a proper function for commercial broadcasters. We do it, however, in the desire to point the way in an uncharted wilderness hoping that others will follow, as some already have.

I would like to suggest that just as we broadcasters have become more involved in the use of television for direct instruction by beaming programs at those who want only to learn, educators should make at least an equal effort to employ the full teaching potential

of every day commercial television.

● FOR EXAMPLE, we have a commercial program on NBC sponsored by General Motors called Wide Wide World which is on the air every other Sunday afternoon. I could think of no better subject for a series of essays to be assigned to any class. And just as it has broadened the horizon of millions of Americans who are not particularly interested in acquiring culture, it could do a great deal in molding and developing formative young minds. And nothing has done more to foster and nourish understanding and appreciation of grand opera than NBC Opera Theatre with opera in English — a truly wonderful educational and cultural endeavor.

Edward R. Murrow's Person to Person on CBS is a veritable education in itself, one of the finest examples of enlightenment on the air today.

I would like to suggest that educators investigate such possibilities as part of a general curriculum. The time has come for educators to stop emphasizing the mote in television's eye and to remove the beam in their own optics, to stop looking down their noses at TV, and, instead, to maintain a constant search for all the elements in TV which, if properly used, can function to disseminate knowledge to all those who seek it and even to those who neither know nor seek, and to be unremitting in their efforts to adapt television to education and education to television.

It has been said that nothing since the invention of printing offers the hope and potentialities for enlarging knowledge as does television. I assure you that we televisors are keenly conscious of this, and we realize that we have in our hands a mechanism which will profoundly affect the development of the human race from now on. The power of television is a sobering influence, and only the most unresponsive of men would fail to be aware of this.

TASO and Allocations

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of the required, desired, and of the permissible interfering, signals at the receiver input. In the same manner, after the performance characteristics of typical receiving antennas and transmission lines are measured, the voltage requirements at the receiver input can be translated into specifications of signal field strength at the typical receiving antenna.

It is now expedient to move to the other end of the television system, namely, to the transmitter.

Here it is necessary to know all the pertinent characteristics of the typical transmitting plant: available transmitter power output, transmission line losses, antenna gain, antenna pattern, etc. With this information at hand, the effective power radiated by the transmitting antenna can be determined.

The one remaining link in the television system is the propagation of the signal from the transmitting to the receiving antenna. This is by far the most difficult part of the system to analyze. The factors already mentioned — levels of picture quality and equipment characteristics — can be measured in straightforward manners, although in some instances with considerable difficulty. Moreover, the equipment characteristics can, at least to some extent, be controlled. The television engineer, however, has little control over the transmission path or over the surroundings in which the householder erects his receiving antenna. He must make the best of conditions as he finds them — and he certainly finds all types of conditions. Consider the fact that satisfactory television service is expected in all types of terrain — mountainous, rolling, flat, desert, and swampy; in all types of population density — industrial, urban, and rural; in all types of ambient vegetation — forested, wooded, prairie, and barren; in all types of climate — wet, humid, and dry, hot, moderate, and cold; at all times of the day and night; at all times of the year — winter, spring, summer, and autumn. All of these factors, and many others, affect the propagation of television signals. And the engineer analyzing the performance of the television system must be able to predict the signal strength in the region of the receiving antenna when power is radiated from a transmitting antenna of a specified height and at a specified distance regardless of the multitudinous variations in the path over which the signal is transmitted.

Once this difficult step has been accomplished, the analysis of the television system is complete. Note that it is then possible to describe the performance of the entire system and to state that if a transmitter of specified characteristics (power, antenna height, etc.) is located at a given spot, television pictures satisfactory to most of the average observers will be produced in predictable areas without causing more than specified degrees of interference in other predictable areas. This is the objective of an allocations study.

It should be noted that frequent reference has been made to "the average observer," "a typical receiver," "the typical transmitting plant," "most . . . observers," etc. In a problem of such complexity as that of television allocations, involving so many completely independent variables, it is impossible to predict with any exactness the quality of pictures available to a given individual. The best that can be done is to resort to statistical methods of analysis and presentation, but these are very useful and,

in most instances, satisfactory tools.

In the above discussion of a television system, little has been said regarding television channels. Actually, knowledge regarding each element of the system — transmitter, propagation path, receiver, etc. — must be obtained at all frequencies of interest; or, in other terms, for all television channels, UHF and VHF. With this information, those studying the allocations problem will be able to determine more accurately the results of assigning certain channels to the various areas of the country.

The problem of obtaining all the necessary technical data required for an allocations study is not an easy one. It is the problem on which the TASO panels are now working. Data are being obtained through the use of questionnaires sent to manufacturers, broadcasters, and servicemen; through tests made in the laboratory; and through an extensive program of measuring the strength of television signals in a number of selected areas in various parts of the country. Over-all evaluation of television service is being made by teams of skilled observers who inspect, but do not touch, receiving installations in the home and record their own and the householders comments on picture quality. Speaking in general terms, the techniques are the standard techniques of measurement and common sense employed in all successful engineering activities.

● HOW Personnel-wise: The success of any venture such as TASO depends primarily upon the engineers who serve on the technical panels. TASO has been particularly fortunate in securing outstanding engineers as officers and members of its panels, committees, and subcommittees. These have been drawn from all branches of the television industry in all parts of the country. A total of 174 engineers from 92 organizations are serving as panel members, alternates, and observers; and still others serve on committees. These men work for manufacturers of television transmitters and receivers, for broadcasting networks, for independent high- and low-power UHF and VHF television stations, for engineering consulting organizations, for educational institutions, for technical publishing houses, and for governmental agencies. It is believed that the TASO membership represents an unusually able and, at the same time, inclusive cross section of the television engineering profession.

● WHEN: Organization of the TASO panels commenced in January, 1957, and the first meeting of the Panel Coordinating Committee was held on February 4, 1957. Since that time, there have been 41 meetings of the panels and of the panel officers, plus many committee meetings. The work of all panels is progressing satisfactorily. Much, however, remains to be done. The present target date for the completion of a major part of the work of TASO is June 30, 1958. There appears to be a reasonable expectation that this date can be met unless very unexpected

situations come to light as a result of laboratory or field studies. It is also believed that as a result of TASO's activities, significiant contributions will be made to the television allocations problem.

What Does It Mean?

Continued from page 6

that the viewer of an educational program must be an active participant in that program if there are to be any true educational gains. If he is a passive listener or viewer, as a person can be in viewing a program of entertainment, there can be no fundamental gains educationally speaking; consequently, there has been no educational contribution to the viewer. As a result of his active participation in the program, he must be better informed about things that are important, must have acquired some new skill or ability, must have developed a better understanding of important ideas or issues, must have modified attitudes or appreciations, or must have shown overt or covert changes in his behavior. If, after he has viewed the program, none of these things has happened to him or is likely to happen as a result of the experience, the program or program series is just not educational in nature.

I think one of the big problems facing the whole educational television movement, particularly that part of it which is not associated directly with schools, is that of maintaining this emphasis upon education. I don't want to convey the impression that we have to be dull, formal, or lacking in liveliness in our program efforts. But I do mean that unless our efforts are pointed directly at the educational development of the individual, they are by definition noneducational in nature, and consequently we are masquerading under false pretenses. We need greater evidence of determination to live up to this assignment in full fashion. We should have no fears, however, regarding the success of such an approach to television. There is nothing more interesting or intriguing than a great teacher working with an important idea or concept. Learning *can* be exciting for large large numbers of people.

A positive look at the situation indicates that herein lies a great opportunity to use a fresh new medium which has great flexibility and great potentiality for presenting educational experiences to a large proportion of our population at all ages in such a manner that they will be vital, interesting, important, and at the same time soundly and solidly educational in emphasis. With such outcomes as our reward we cannot be too strenuous in urging educators and broadcasters alike to redouble their efforts to meet this challenge.

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